

Running head: ANALYSIS OF CONTRACT PROVIDERS

U.S. Army-Baylor University

Graduate Program in Health Care Administration

A Business Case Analysis of the Direct Health Care Provider Program

Womack Army Medical Center, Fort Bragg, N.C.

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Abstract

The iron triangle of health care, cost, quality and access, is used as a model for decision making within the health care continuum. Focusing on the cost portion of the Iron Triangle, this research project conducts a business case analysis of the Direct Health Care Provider Program (DHCPP) at Womack Army Medical Center, Fort Bragg, North Carolina to determine if this program is a sound business decision. It further investigates the individual productivity of each provider hired under this program. This project will establish the groundwork for future decision making relative to physician contracts under the DHCPP. In order to determine the cost effectiveness of the DHCPP, a comparison of the dollar amount of workload each doctor provided and the salary amount paid from September – November 2000 was conducted. Also calculated was the number of patients treated per day by each provider as well as the average number of laboratory tests, radiological studies and pharmacy prescriptions written by each provider.

In aggregate, the study demonstrates that Womack has made a sound business decision as the workload provided by the contract doctors exceeded the provider's salaries by \$864,897. On an individual basis, sixteen of the nineteen providers generated more workload than the dollar value of their salaries. The three who did not generate more workload than the dollar value of their salaries were doctors who provide unique specialty services that often operate at a loss.

A productivity analysis of the contracted doctors reveals that 12 of the 19 doctors examined met or exceeded productivity standards as set by Womack Army Medical Center. This study also reveals the average number of pharmacy prescriptions, laboratory orders and radiological studies ordered by each of the providers.

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Business Case Analysis of the Direct Health Care Provider Program

Womack Army Medical Center, Fort Bragg, N.C.

Introduction

Womack Army Medical Center, Fort Bragg, North Carolina, opened the doors to a beautiful state of the art facility in March 2000. The Womack Health Care System consists of a one million square foot hospital and several outlying health clinics. This health care system cares for one of the largest beneficiary populations (163,000 enrollees) within the Department of Defense (DOD). The DOD has a managed care model in which health care is provided. This model is called TRICARE. TRICARE consists of a series of contracts between the government and civilian managed care organizations. The contracts are divided into 13 geographical regions (Appendix D). Womack is located in TRICARE Mid-Atlantic Region 2. TRICARE Region 2 shares a contract with TRICARE Region 5, and the civilian contractor is Anthem Alliance Health Insurance Corporation (AAHIC). For the duration of this paper, when TRICARE contractors and TRICARE Regions are referred to, the reference is to TRICARE Region 2 and the contractor, Anthem Alliance Health Insurance Corporation.

The DOD provides care in military treatment facilities (MTFs). In addition, the DOD also contracts with other civilian health care organizations to assist in caring for this large beneficiary population. In order to provide optimal care for this population, Womack is staffed primarily with military and General Schedule (GS) civilian providers. Oftentimes however, there are shortfalls in the number of military and GS employees. Womack has been innovative in its approach to accommodate for the shortfalls by using a combination of solutions. One solution that Womack has used is to employ contract doctors in the facility, in addition to the military and General Schedule (GS) civilian providers.

There are two main programs that Womack uses to hire contract doctors: Resource Sharing Agreements (RSA) and the Direct Health Care Provider Program (DHCPP). Resource Sharing Agreements are part of a program in which Womack has entered into an agreement with AAHIC to provide specific types of services. AAHIC pays the salaries of providers who use space within Womack. This arrangement is financially beneficial to both the government and the contractor because it is cheaper to AAHIC to provide care within Womack since they avoid the overhead costs they would incur if the care were given elsewhere. Womack benefits because the overhead costs would exist whether or not the AAHIC providers are in the facility, and they are not paying the salaries of the doctors providing the care to the patients within the MTF.

The purpose of the DHCPP, the other method of contracting providers, is to cover provider shortfalls when Womack is unable to get military or GS providers to fill vacancies. Under the DHCPP, contract providers work within the hospital and share the same patient population as the other providers within Womack. Predominantly, the contracts are between Womack and individual doctors or smaller organizations, as opposed to the RSAs where the contract is with AAHIC. The individually contracted doctors provide additional manpower to the facility. These contract physicians provide care, that from a patient standpoint should be indistinguishable from GS civilian or military providers. This study will focus on the DHCPP contract physicians.

During fiscal year (FY) 2000, Womack spent nearly four million dollars on contract physician providers through DHCPP. This expenditure enabled Womack to treat a greater portion of its beneficiary population within the facility. The providers' salaries are negotiated, and set at a level commensurate with the market conditions in Fayetteville, North Carolina

Womack has identified approximately fifteen additional physician requirements in response to the most recent reduction of military providers under the Officer Distribution Plan (ODP). The U.S. Army Medical Command (MEDCOM) at Fort Sam Houston, TX, and the North Atlantic Regional Medical Command (NARMC) in Washington, DC. mandate the ODP. It is prudent to examine the cost effectiveness of the current DHCPP contractors before hiring additional contract providers.

Background

Decisions relating to health care are not accomplished in a vacuum. Major policy changes in one aspect of a health delivery system can affect the entire process. Occasionally, change results in an unplanned benefit or increase in overall efficiency. However, sometimes a modification to one part of health care delivery will cause an unsuspected disruption or inefficiency in another function. A systems approach must be vigorously applied to the entire spectrum of care to identify issues that may appear when utilizing contract personnel. Health care executives would be wise to consider the possible effect that a contracting initiative could have on the quality of patient care, the overall workplace environment, staff morale, and the status or reputation of the hospital within the community.

In order to adequately meet the needs of Womack's health care beneficiary population, it is necessary to provide timely access to quality health care. Military Healthcare System (MHS) beneficiaries have several options under TRICARE from which to choose. There are varying costs to patients depending on which option they choose and where they want to receive their care. The patients of this study are TRICARE Prime patients. Womack has 115,742 TRICARE Prime patients, 108,611 of whom have chosen to receive their care within the Womack Healthcare System (T. Strait, personal communication, October 11, 2000). The remainder

receive care that is paid for by AAHIC through network and non-network providers. These are the patients that can produce cost savings if treated within the military MTF. This cost savings results from avoiding costly referrals out to providers within the community, adding cost to the government. To reduce the number of costly referrals and increase access to Prime patients at the MTF, contract doctors are hired.

TRICARE has prescribed access standards that must be met for providing care to patients whether the appointment type is acute, routine, or wellness. Womack was not consistently meeting TRICARE access standards and in order to improve, hired DHCPP doctors to assist in correcting this problem. It is also beneficial for TRICARE Prime patients to be seen in the military MTF because they are able to avoid co-pays and deductibles that may apply if they are referred out of the facility.

This additional manpower is not something that is purchased without a documented decision-making process. In order to hire the contractors there has to be a valid requirement for each of them on the Womack Table of Distribution and Allowances (TDA), which is the standard Army manpower authorization and staffing document. Additionally, the workload that each contractor is expected to provide is quantified either in current or projected visits. Therefore the contractor is either being hired to fill a position that was previously filled by a military or GS provider or a position that was previously unfilled. If the position was previously unfilled there must be a documented demand for the designated services and need projections must provide workload estimates that support increased staffing.

It is the responsibility of the decision makers within the military health care system to ensure that care is provided in a manner consistent with maximizing available resources. In short, the question must be answered whether it is more cost efficient to hire providers to work

within Womack to provide health care, or if it is more cost effective to refer beneficiaries out into the local health care network in Fayetteville. At the time the contracts were initiated, it was projected that it would be more cost effective to hire the contractors through the DHCPP than to buy the visits on the network. It is now the challenge of this project to determine if this forecast is accurate. In addition to cost effectiveness, it is pertinent to examine other factors that exist when contract personnel are introduced into a health care facility.

Literature Review

With the prevalent focus on the cost of health care, and the proven cost savings associated with contracting certain positions or services, outsourcing health care has been on the rise (Sunseri, 1997). According to a 1997 nationwide Health and Hospital Network (HHN) Contract Services Survey (Sunseri, 1997), outsourcing in the Emergency Room (ER) and Radiology has grown to 33% and 11.8%, respectively. The HHN report described satisfaction with contracted services in the ER at 91% and 99% in Radiology. It is projected that there will be an increase nationally in the level of contract use, with an increase of 40% in sub-acute care within the next few years. This particular study is relevant to Womack because it contracts with the same types of providers.

Cost, quality, and access are known as the three legs of the iron triangle of health care. In addition to the primary focus on cost, this study will also address access. Patient access to Womack's facility is essential in order for Womack to care for patients appropriately. One method of increasing access is to have more appointments available through the appointment template process. In order to make more appointments available, it is critical to examine current practices for each military and non-military provider within the facility, and determine methods to safely increase the number of patients that each provider can see every day. Recently,

increasing the number of patients each provider safely and effectively treats daily has been a goal based on directives from the DOD, TRICARE Management Activity (TMA), and MEDCOM.

Finding ways of allowing providers to increase the number of patients they treat can potentially reduce the number of referrals sent out of the facility. This would directly save the government money by reducing the amount of money paid to the TRICARE contractor during the bid-price adjustment (BPA) of the contract. The renewed focus on productivity is in response to the amount of money that the government has been paying to the TRICARE network for caring for TRICARE Prime patients that were initially projected to receive care in the MTF.

Within TRICARE Regions 2 & 5, the fixed cost of the five-year contract is approximately \$3.8 billion. However, the contract contains clauses for risk sharing between the military MTFs and the Managed Care Support Contractor (MCSC), Anthem Alliance. When the contract was initiated, the military provided a best estimate of how many patients would be treated within the military MTFs and how many patients would be cared for by the MCSC. To measure the accuracy of this prediction, the actual workload that is performed is evaluated every three months by a contracting firm, Kennel and Associates. If there is a discrepancy, either the government owes the MCSC money or the MCSC owes the government money. Lately, there has been a trend for the government to owe the MCSC money. In fact, during the first year of the contract, the government owed Anthem Alliance approximately \$7 million in additional charges for Region 2. A significant portion of this debt was borne by Womack (D. Petray, personal communication, March 14, 2000). It is therefore the government's charge to more accurately predict the workload that will go to the MCSC to ensure a more predictable budget process. While the process has improved, it is still not operating at maximum efficiency. For the time frame November 1999-April 2000, Womack was responsible for a Bid Price Adjustment of

over \$2 million which is payable to AAHIC. By bringing more workload back into the MTF and therefore operating more efficiently, it should be possible to reduce the amount of money owed to the MCSC during the BPA of the contract. One way of bringing a portion of the workload back into Womack is to hire additional providers. This initiative makes sound business sense only if the contractors are providing care at a price less than the cost of sending the patients to the MCSC. This study will determine if the DHCPP is a good business decision based on whether the care that the contractors provide costs less than sending the patients out to the network.

Increased productivity is one of the assumed benefits of using contractors instead of GS or military doctors (R. Goodman, personal communication, April 20, 2000). The contractors are assumed to be more productive than GS and military providers due to GS and military providers having a myriad of other responsibilities. The GS and military providers have administrative responsibilities within the facility such as continuing education, sick leave, paid vacation, temporary duty, committees, and process improvement teams. The military providers' availability is further reduced due to tasks ranging from readiness related activities such as physical training, field training time, and Common Task Testing. The DHCPP contractors should positively impact the goal of alleviating workload sent out to the network because they are hired for a specific amount of time to do one thing—see patients.

Provider productivity has become an increasingly important issue within the managed care environment. In order for managed care organizations to operate at a profit, it is necessary to measure how productive providers are, and identify detractors from productivity. A 1997 survey by the American Medical Group Association (AMGA) reported that “84% of clinics surveyed used productivity as part of their physician compensation program” (Ogrod, 1999). In

fact, Kongstvedt (1996) states that “physicians in managed care plans are about 83% as productive as those in fee for service environments.” There are many reasons for measuring productivity including determining cost and quality of care, establishing group or individual productivity goals, balancing workloads, assigning overhead expenses, and for cost accounting and resource planning purposes (Ogrod, 1999).

There are several methods that are prevalent in the nation when attempting to measure productivity. One such method is a simple calculation of how many patients each provider treats per day. This method can be fairly effective if every provider being evaluated has the same specialty and if each provider is seeing a similar patient case mix. This method does not lend itself to meaningful information if there are differences in provider specialties or experience levels, or when the providers treat very different types of patients (i.e. one sees primarily geriatric patients and the other sees 20-25 year old healthy males). To take the patients/day process one step farther, it is possible to convert each patient visit into a relative value unit (RVU). An RVU is a number consisting of physician work, practice expense, and professional liability insurance multiplied by a monetary conversion factor to calculate Medicare payments. The Health Care Financing Administration (HCFA) has the responsibility to review the RVU scale every five years to determine the accuracy of the numbers (Ogrod, 1999). RVUs increase the meaning of patients per day, because they are adjusted for patient severity, length of the visit, and overhead costs. It is also more resource intensive to obtain this information.

A Medical Group Management Association (MGMA) (1997) survey revealed the following methods of measurement by percent of health care organizations using them. These figures add up to more than 100% because some organizations use more than one method (Table 1).

Table 1

Productivity Measurement Methods

Method of Measuring Productivity	% of Organizations Using This Method
Net Collections	62%
Gross Charges	28%
Net or Adjusted Charges	19%
Relative Value Units (RVU)	15%
Patient Encounter Data	10%
Patient Panel Size	2%

Other economic performance models include measurements of specialty referrals, inpatient days per thousand covered lives, total per-member-per-month medical expense for a covered population, compliance with various Health Employer Data Information Set (HEDIS) measures, and various specific outcome objectives (i.e., cesarean section rates) (Berger, 1997).

As demonstrated, there are multiple methods of determining provider productivity. It is the impetus of each health care organization to determine which method best suits their mission requirements based on medical group size, reimbursement methods, and compensation methods. No system should be so complex that the information cannot be measured accurately. Physician buy-in should always be sought, and the process should be easily understandable. The system should also attempt to account for non-clinical activities that the providers engage in such as teaching, research, paperwork, time off, and continuing medical education (Ogrod, 1999).

Womack uses the Army Staffing Assessment Model (ASAM) standard for establishing provider productivity goals for each full time equivalent employee (FTE). The ASAM standard is the Army model used to determine appropriate staffing levels and productivity goals Army wide. The ASAM team visits MTFs and determines adequate staffing based on workload. Throughout this process standards are developed and used to determine if each staff member is productive. Productivity standards have been developed in the form of the number of patients

that each provider should see each day. This formula takes extraneous variables into consideration such as leave, time for administrative functions, time for other training, and time for other functions that interfere with patient care. After all of these factors are taken into consideration, standards are developed. The ASAM provider productivity goals that are relevant to this research project are presented in Table 2.

Table 2

ASAM Provider Productivity Goals

Provider Type	Number of Patient Visits per 7 hour day
Plastic Surgery	7.0
Early Intervention Program	7.0
Gulf War Illness	9.3
General Surgery	9.7
Internal Medicine	16.2
Pediatrics	16.5
Dermatology	17.5
Occupational Health	18.6
Family Practice	19.4
Emergency Medicine	2.0*

*Due to non-standard shift length, please note that Emergency Medicine goals are hourly.

This research project will examine provider productivity for DHCPP providers. Personal services contracts (PSCs) comprise most of the DHCPP contracts. According to Department of Defense Instruction (DODI) 6025.5, dated January 6, 1995, PSCs for physicians and other health care providers were developed for use “when in-house sources are insufficient to support the medical mission of the Military Departments, or when in using sound business judgment it is more efficient to do so.” A PSC is by DOD definition “a contract that, by its expressed terms or as administered makes the contractors appear, in effect, to be government employees.”

From the hospital's standpoint there are several tangible and intangible factors that must be taken into consideration when entering into contracts with health care providers. First, a determination must be made concerning whether malpractice insurance will be provided. All military and GS providers enjoy malpractice protection under the Federal Tort Claims Act (FTCA) for "injury or loss of property, or personal injury or death caused by the negligent or wrongful act or omission of any employee of the Government, while acting in the scope of his office or employment" (28 USC 2671 et seq.). Should this entitlement extend to contract providers as well? The PSC definition in the previous paragraph lends itself to the belief that the PSC providers should be afforded medical malpractice coverage by the government. However, there are differing opinions on this subject. To further confuse the issue, one must consider the Feres Doctrine when discussing medical malpractice lawsuits. The Feres Doctrine precludes military personnel from suing the government under the FTCA. In an article entitled "Can the Feres Doctrine Survive TRICARE, and Should It?", the author examines issues that complicate the relationship between military personnel and their health care providers when they are not covered under the FTCA (Shelley, 1998). The relevant issues specifically addressed are as follows:

"-Are civilian physicians and dentists who provide health care under personal and non-personal services contracts considered employees of the government and thus covered under the FTCA?

-Should independent contractors provide their own malpractice coverage even if the contract says they are not required to do so?

-Does the Feres doctrine maintain a double standard for MHS beneficiaries in their attempts to recover remedies in malpractice claims?

-Will TRICARE be a catalyst for change with regard to provider liability and beneficiary recovery for malpractice actions?

It is Shelley's (1998) opinion that these issues support the decision to end the era of the Feres Doctrine, and thus allow military members to file medical malpractice lawsuits when the standard of care is not met. This controversy is something that needs to be taken into consideration and examined when the decision is made to contract with doctors.

The Department of Justice (DOJ) has recently examined this issue at length, and in an article in *The Army Lawyer* (2000), this discussion is brought to light. Prior to 1995, the DOD required all contract doctors to carry their own medical malpractice insurance. In 1995, the DOD changed its policy to say that personal services contractors were federal employees who are "entitled to the immunities provided military and DOD civilian health care providers" (*The Army Lawyer*, 2000). However, there was a serious incongruity between the DOD and DOJ's opinions on the matter. The DOJ did not recognize that a contractor "could not, by its terms, expand the Government's waiver of sovereign immunity under the FTCA, not expand the scope of its liability for the tortuous acts of a contract employee." Therefore, although the contracts stated that the provider was covered, the DOJ did not recognize this benefit. President Clinton resolved the discrepancy when he signed the National Defense Authorization Act for Fiscal Year 1998 in November 1997. Section 736 of that law amended the Gonzalez Act to provide malpractice insurance for contract physicians. There is still a problem however because the DOJ does not believe that the change is retroactive; any providers that committed tortuous acts prior to 1997 are not covered. To date, there is still discussion relating to the nature of the contract-whether the contract is between the government and an individual doctor or between the government and a corporation. The DOJ still does not recognize malpractice insurance coverage for doctors practicing under a contract between the government and a corporation. This issue is

currently being reviewed on a case-by-case basis. Several of the DHCPP providers work for a corporation, PhyAmerica. Needless to say, this can cause some concern among providers.

This lends itself to another topic—that of employee morale and loyalty. It is possible that there will be morale issues if two doctors working side by side make the same mistake, and one of them is held personally liable while the other is not. The doctor with the non-personal services contract, who is not likely covered, may feel a reduced amount of organizational loyalty. According to the social identity theory (Worchel, 1998), an individual's identity is linked to the group to which he or she belongs. If the members of the group are not uniformly afforded benefits that other members of the organization are given (malpractice insurance), the providers could have negative feelings, and morale and productivity could be affected. A doctor who is not afforded malpractice insurance also may practice a higher level of defensive medicine. In other words, he may order unnecessary lab tests, request excessive radiological studies or spend an unnecessarily lengthy amount of time with the patient. This can drive up the cost of health care. Defensive medicine could also adversely affect the continuity of care provided to patients.

The Office of Technology and Assessment (OTA) defines defensive medicine as “performing extra tests or procedures primarily to reduce malpractice liability” (Glassman, Rolph, Petersen, Bradley, and Kravitz, 1998). Physicians practice defensive medicine to thwart malpractice actions and to support a defense if an action is brought to trial (Pozgar, 1999). Defensive medicine accounts for five to eight percent of all medical tests (Jacobson and Rosenquist, 1996) and increased health care cost by \$19.3 billion in 1988. In 1998 defensive medicine costs were approximately \$2.7 billion for preoperative tests ordered by anesthesiology and approximately \$178 million in emergency skull x-ray examinations in emergency rooms (Costello, 1995).

Defensive medicine increases the cost of health care when the physician adds tests or procedures that have diminishing marginal clinical value (Bovbjerg, Dubay, Kenney, and Norton, 1996) and the extra tests or procedures are seen as an investment in avoiding malpractice claims (Jacobson and Rosenquist, 1996). In addition to economic, legal and interpersonal factors that contribute to the practice of defensive medicine stated previously, the physician's tolerance of uncertainty and assessment of clinical risk should also be considered (Glassman et al., 1998). Physicians must deal with the uncertainty of their patients' outcomes and reactions to care, as well as the myriad of clinical options for any given diagnosis. Doctors realize that they may be sued when a patient is not satisfied. These uncertainties of medicine contribute to physician decisions to practice defensively (Weisman, Morlock, Tertelbaum, and Klassen, 1989).

Oftentimes when contract personnel are introduced into an established workforce, there are other problems related to morale. On cursory review, it may be said that contract providers promote high morale by limiting staff overload or by providing coverage for vacations and sick leave. Additionally, some may argue contract providers experience increased levels of morale based on their typically higher than average salaries, flexible work hours and increased input regarding the responsibilities they choose to accept. While these may be legitimate arguments, most anecdotal evidence suggests that contract providers have a negative effect on morale for all concerned (Jackson, 1998).

Contract providers typically stand outside the corporate culture, experiencing a lessened sense of belonging compared to GS or military staff. Being part of the "infrastructure" engenders a social process, which has benefits for the individual. There may be a more profound sense of commitment and a willingness to solve problems if the provider is expecting to work long term.

While contract providers sometimes enjoy less accountability (Jackson, 1998) to the contracting facility, at times they also have a lower status than do other providers. Many contract providers, particularly Emergency Room Physicians, also feel a decreased level of autonomy (Fisher and Wittlake, 2000). Many providers feel that this diminishes a physician's status in the community and a physician's self-determination. Oftentimes contract providers pose a threat to other providers as they may represent a permanent position that has been eliminated. There are also factors associated with differences in salary. Commonly, contract providers enjoy salaries that are larger than their counterparts. GS or military providers may feel resentful of the better salaries afforded to contract personnel. Additionally, contract providers often experience little or no input on personnel decisions, such as the hiring or firing of support personnel, and the budget for the clinic (Brooks, 1998). Including the contract providers into the corporate culture is something that must be monitored and taken into consideration by supervisory personnel.

These intangible issues are important and must be taken into consideration when deciding to contract personnel. However, the most powerful factor with contract providers is cost effectiveness. Measuring this aspect of the make/buy dilemma will be the main focus of this project, and is outlined in the following paragraphs.

Research Objective

The research objective of this study is to determine if the DHCPP is a sound business decision. It also investigates the individual productivity of each provider hired under this program. This project will establish the groundwork for future decision-making relative to physician contracts under the DHCPP. This study will also calculate the number of patients treated per day by each

provider as well as the average number of laboratory tests, radiological studies and pharmacy prescriptions written by each provider.

This research project will determine if it is more cost effective to hire DHCPP doctors or to send additional workload out to the local TRICARE MCSC network of providers.

Research Design

Womack employs 23 providers under the DHCPP program. A sample of 19 providers was selected for this study. Four providers were not selected for examination since three of them did not work during the entire period, and the fourth's duties did not lend themselves to a workload analysis because she was not involved in direct patient care. The DHCPP office falls under the auspices of the hospital's Directorate of Managed Care and Business Operations. Complete salary information for each provider can be found in Appendix C. The contract provider population (n=19) is configured as follows:

Table 3

Contract Providers by Quantity, Specialty and Salary

Provider Type	# Providers	Total Salaries by Provider Type (Sep-Nov)
Family Practice	6	\$1,040,075
Emergency Department	3	\$846,125
Other Specialty	6	\$787,147
Pediatrics	2	\$437,582
Surgery	2	\$200,563
Total	19	\$3,311,492

It is noted that 14 of the providers are full time employees and 5 are part time employees. In order to determine if these providers are cost effective, it is necessary to compare their salaries to what Womack would pay to send the services that these doctors provide out to civilian doctors

within the TRICARE network in the Fayetteville area. In order to determine this, each provider's workload was compared to what would have been paid for the same service under the TRICARE Maximum Allowable Charge (TMAC) for the Fayetteville area. The TMAC reimbursement rate is a set price that the DOD will pay for each unit of service provided. The dollar amount that Womack actually pays the outside provider is often slightly less than the TMAC rate due to discounts, co-pays and deductibles.

The TMAC is determined by geographic region. The TMAC rate is determined by the Evaluation and Management (E&M) Codes that are annotated on the electronic patient encounter sheet that is generated for each patient, and recorded in the Ambulatory Data System (ADS). The E&M Codes examined in this study were patient visits, procedures done, laboratory tests ordered, and radiological studies ordered. Prescriptions were not assigned dollar figures because most prescriptions written by network providers are filled at Womack (S. Martin, personal communication, November 16, 2000). This is because beneficiaries do not have to pay any money to get them filled at the MTF, whereas if the prescriptions were filled downtown there is an associated co-payment. The TMAC dollar amounts were extracted from the TMA Website. The ADS is a module within the Composite Health Care System (CHCS) that is the primary source data collection system in the DOD. It is the standard for capturing patient workload. The E&M Codes are federally established codes that can be found in the front portion of the Professional Edition of the American Medical Association's Current Procedural Terminology (CPT) Sourcebook (2000).

When determining if the DHCPP is a sound business decision, it is important to consider all of the services that the providers offer within the MTF. In addition to the patient visits and the procedures performed by the providers, the ancillary services are contained within the MTF

as well. In order to most accurately depict the TMAC reimbursable amount of workload that is being captured in the MTF, the laboratory tests ordered and the radiological studies ordered were added to the patient visits and procedures performed. While this method fails to capture the overhead cost of performing these functions within the MTF, it does represent the costs avoided by not sending workload out of the facility. Reports were run for each provider that contained the following information:

- Patient Office Visits (E&M Codes)
- Procedures Performed (CPT Codes)
- Labs Ordered (CPT Codes)
- X-Rays Ordered (CPT Codes)
- Prescriptions Ordered (Raw Numbers)

The dollar amount of workload for each of these variables was collected for a three-month period from September-November 2000. The formula used to determine if each provider produced a cost savings to Womack is as follows:

$$(\$ \text{ Value of Patient Visits} + \$ \text{ Value of Procedures Performed} + \$ \text{ Value of Labs Ordered} + \$ \text{ Value of x-rays Ordered}) - \text{Salary Paid} = \text{Womack's Profit (positive number) or Loss (negative number)}$$

Additionally, data was collected on each provider's average number of patients seen per day, average number of prescriptions per patient, average number of laboratory tests ordered per patient and average number of radiological studies ordered per patient. In total, there were over 56,000 lines of patient visit data to be examined and a dollar amount assigned. This data was then sorted to extract meaningful information.

Ethical considerations are a principal concern in any research project. No patient or provider specific information will be reported in this study. When analyzing the workload it was necessary for the researcher to examine patient specific information to ensure reliability and validity of the data. This included manually examining the information contained in the ADS files to ensure that each patient encounter recorded was unique and not a duplicate entry. No further examination of patient specific information was conducted. All names of the providers studied have been changed for privacy reasons.

Data quality issues are of paramount concern at Womack. In order to ensure the validity of the data being collected in CHCS, Womack has instituted several mechanisms to encourage proper data entry of information relating to all operations within the MTF to include patient visit data. The results of this study are as valid as the information put into the system. In order to ensure researcher reliability, each line of information in the CHCS reports was examined manually by the researcher to ensure that there were no glaring discrepancies or errors.

Research Results

In aggregate, this study suggests that the DHCPP is a good business decision. The workload generated by the contract providers was \$864,897 more than the salaries paid for the time frame September-November 2000. Sixteen of the nineteen providers had an overall positive workload number compared to their salary. The three providers who had a negative workload number were specialized providers who often operate at a loss, but are essential components in accomplishing the health care mission. For an analysis of each provider's duties and responsibilities refer to Appendix B. The information in Appendix B provides a detailed explanation for each provider who does not appear to be generating more workload than the salary paid. Each of the providers offer a specific service to Womack and the Fort Bragg

community that have intangible benefits that must be examined in conjunction with the fiscal analysis. Table 4 contains a summary of the providers' individual impacts and Appendix C provides a complete listing of all variables factored into this analysis.

Table 4

Womack's Total Profit/Loss and for Each Contract Provider

Doctor's Name	Specialty	Womack's Profit/Loss 100% of TMAC	Womack's Profit/Loss 80% of TMAC
Dr. Alpha	Emergency Medicine	\$51,111	\$40,888
Dr. Bravo	Emergency Medicine	\$45,740	\$36,59
Dr. Charlie	Emergency Medicine	\$24,174	\$19,339
Dr. Delta	Family Practice	\$96,962	\$77,569
Dr. Echo	Family Practice	\$94,615	\$75,692
Dr. Foxtrot	Family Practice	\$56,409	\$45,127
Dr. Golf	Family Practice	\$43,643	\$34,914
Dr. Hotel	Family Practice	\$32,850	\$26,280
Dr. India	Family Practice	\$33,295	\$26,636
Dr. Juliet	Pediatrics	\$43,708	\$34,966
Dr. Kilo	Pediatrics	\$26,572	\$21,257
Dr. Lima	Surgeon	(\$4,307)	(\$3,445)
Dr. Mike	Surgeon	(\$9,488)	(\$7,590)
Dr. November	Optometry	\$242,568	\$194,054
Dr. Oscar	Internal Medicine	\$69,930	\$55,944
Dr. Papa	Dermatology	\$16,920	\$13,536
Dr. Quebec	Early Developmental Intervention	\$5,791	\$4,632
Dr. Romeo	Pediatric Cardiologist	\$4,447	\$3,557
Dr. Sierra	Occupational Health	(\$10,043)	(\$8,034)
Total Cost Avoidance		\$864,897	\$691,917

It is also useful to examine the productivity of individual doctors and compare them to each other. In order to normalize the doctors to compare pure workload it is necessary to remove the salary information, and compare dollar amount of workload accomplished in the form of patient visits, procedures performed, laboratory tests ordered and X-rays ordered. For simplicity,

it is broken down by specialty as much as possible. Table 5 contains by specialty assessments of the dollar value of providers' efforts.

Table 5

Workload Comparison

Doctor's Name	Specialty	Total Dollar Value of Workload
Dr. Papa	Dermatology	\$44,295
Dr. Charlie	Emergency Department	\$92,558
Dr. Bravo	Emergency Department	\$103,344
Dr. Alpha	Emergency Department	\$108,361
Dr. Quebec	Early Development	\$32,788
Dr. Foxtrot	Family Practice	\$114,942
Dr. Delta	Family Practice	\$137,566
Dr. Echo	Family Practice	\$135,219
Dr. Golf	Family Practice	\$68,618
Dr. Hotel	Family Practice	\$73,454
Dr. India	Family Practice	\$73,899
Dr. Oscar	Internal Medicine	\$112,660
Dr. Sierra	Occupational Health	\$9,330
Dr. November	Optometry	\$271,996
Dr. Juliet	Pediatrics	\$77,870
Dr. Kilo	Pediatrics	\$75,407
Dr. Romeo	Pediatric Cardiologist	\$5,197
Dr. Lima	Surgery	\$4,703
Dr. Mike	Surgery	\$25,183

An additional comparison using information generated from this study is the number of patients each provider treats per day. This number was calculated for each provider by taking the total number of patients seen during the period September-November 2000, and dividing that by the number of days worked. The number of days worked was determined by examining the CHCS reports that listed each patient visit. If a provider saw one patient on any given day, that day is considered a day worked. As discussed previously, Womack uses ASAM as the provider productivity standard. The actual number of patients each provider saw is compared to the ASAM standards in Table 2. The Emergency Medicine providers are calculated on an hourly

basis because their shifts vary from 8-12 hours, making a patients/day comparison much less meaningful.

Table 6

Patients Per Day

Doctor's Name	Specialty	Avg # Patients Per Day Sep-Nov	ASAM Standard for Specialty	Plus or Minus
Dr. Delta	Family Practice	25.6	19.4	6.2
Dr. Echo	Family Practice	25.2	19.4	5.8
Dr. Hotel	Family Practice	25.1	19.4	5.7
Dr. Foxtrot	Family Practice	24.6	19.4	5.2
Dr. India	Family Practice	24.0	19.4	4.6
Dr. Golf	Family Practice	4.8	9.3	(4.5)

Table 7

Patients Per Hour

Doctor's Name	Specialty	Avg # Patients Per Hour Sep-Nov	ASAM Standard for Specialty	Plus or Minus
Dr. Bravo	Emergency Medicine	2.1*	2.0	0.1
Dr. Alpha	Emergency Medicine	1.7*	2.0	(0.3)
Dr. Charlie	Emergency Medicine	1.5*	2.0	(0.5)

Table 8

Per Day

Doctor's Name	Specialty	Avg # Patients Per Day Sep-Nov	ASAM Standard for Specialty	Plus or Minus
Dr. Juliet	Pediatrics	21.7	16.5	5.2
Dr. Kilo	Pediatrics	19.6	16.5	3.1

Table 9

Patients Per Day

Doctor's Name	Specialty	Avg # Patients Per Day Sep-Nov	ASAM Standard for Specialty	Plus or Minus
Dr. Mike	Surgeon	10.8	7.0	3.8
Dr. Lima	Surgeon	2.6	9.7	(7.1)

Table 10

Patients Per Day

Doctor's Name	Specialty	Avg # Patients Per Day Sep-Nov	ASAM Standard for Specialty	Plus or Minus
Dr. November	Optometry	49.7	12.1	37.6
Dr. Papa	Dermatology	22.9	17.5	5.4
Dr. Oscar	Internal Medicine	19.1	16.2	2.9
Dr. Romeo	Pediatric Cardiologist	15.3	16.5	(1.2)
Dr. Quebec	Early Developmental Intervention	5.3	7.0	(1.7)
Dr. Sierra	Occupational Health	4.1	18.6	(14.5)

When making provider comparisons it is also valuable to compare providers by the number of orders they are writing. Orders examined in this study are pharmacy, laboratory, and radiology. Managers can use this information to look for ordering trends among providers and determine if providers are appropriately utilizing ancillary services based on their mission. As some providers did not write certain types of orders “NA” is annotated to reflect the absence of orders. The results of the analyses of the number of orders are reported in Tables 11-15. Refer to Appendix 3 for the methodology used to compare the reported results.

Table 11

Number of Orders by Specialty

Doctor's Name	Specialty	Avg # Rx Per Patient	Avg # Labs Per Patient	Avg # X-Rays Per Patient
Dr. Delta	Family Practice	1.12	0.77	0.15
Dr. Echo	Family Practice	1.31	0.82	0.16
Dr. Hotel	Family Practice	1.18	0.71	0.12
Dr. Foxtrot	Family Practice	0.94	0.66	0.11
Dr. India	Family Practice	1.25	0.07	0.02
Dr. Golf	Family Practice	0.01	0.45	0.49

Table 12

Number of Orders by Specialty

Doctor's Name	Specialty	Avg # Rx Per Patient	Avg # Labs Per Patient	Avg # X-Rays Per Patient
Dr. Bravo	Emergency Medicine	2.40	2.24	0.83
Dr. Alpha	Emergency Medicine	0.16	2.10	0.66
Dr. Charlie	Emergency Medicine	1.64	2.61	0.74

Table 13

Number of Orders by Specialty

Doctor's Name	Specialty	Avg # Rx Per Patient	Avg # Labs Per Patient	Avg # X-Rays Per Patient
Dr. Juliet	Pediatrics	1.04	0.27	0.06
Dr. Kilo	Pediatrics	0.89	0.34	0.08

Table 14

Number of Orders by Specialty

Doctor's Name	Specialty	Avg # Rx Per Patient	Avg # Labs Per Patient	Avg # X-Rays Per Patient
Dr. Mike	Surgeon	0.80	0.90	NA
Dr. Lima	Surgeon	0.14	NA	0.48

Table 15

Number of Orders by Specialty

Doctor's Name	Specialty	Avg # Rx Per Patient	Avg # Labs Per Patient	Avg # X-Rays Per Patient
Dr. November	Optometry	1.26	NA	NA
Dr. Papa	Dermatology	0.66	0.21	NA
Dr. Oscar	Internal Medicine	1.31	1.16	0.20
Dr. Romeo	Pediatric Cardiologist	0.09	NA	NA
Dr. Quebec	Early Developmental Intervention	0.22	0.45	0.15
Dr. Sierra	Occupational Health	0.14	0.01	0.09

Limitations of the Study

There are several limitations in this study. The first is that it would be too resource intensive for this study to capture the supply and overhead costs attributable to the individual providers. Therefore, supply and overhead facility costs are not factored into this analysis.

Second, this study does not generalize to geographic areas outside of Fayetteville, since the TMAC rates that are used in the calculations are for this area only. In order for this study to be applicable in other areas, the study would have to be repeated using workload data from other facilities, and the applicable TMAC charges for the area where those facilities are located.

A third area of concern is the accuracy of the E & M Codes within ADS. Data entry accuracy has always been a source of concern within the military health care system, and although there is a continuing education process and improvement effort underway, errors are possible. Since the providers examined in this research project are contractors, many of them understand the importance of proper coding better than the average military or GS physician. This understanding contributes to more accurate coding. However, it is still possible that there could be errors or omissions. In order to generate better data accuracy, Womack has attempted to increase the quality of the information in its data systems by creating a local form: WAMC

Form 40-330b. WAMC Form 40-330b is the ADS Superbill that the doctors fill out manually to record information pertinent to each patient visit. This ADS Superbill is given to a medical clerk so that the relevant information can be entered into ADS. The Superbill is a compilation of common E & M diagnosis and procedural codes. Although this greatly increases the potential that information entered into ADS correctly represents the patient's visit, it is not a guarantee. See Appendix A for an example of the Superbill.

The fourth and final limitation of this study is that only a portion of each provider's work is being captured. There are administrative and coordination requirements that the studied providers are responsible managing and it would be impractical to quantifiably depict these requirements for analysis within the scope of this project.

Summary and Conclusions

This study demonstrates that the use of DHCPP contract providers is a sound business decision when Womack is unable to obtain military or GS providers. The soundness of the decision is substantiated by the \$864,897 of workload that was produced over the cost of the contractor salaries for the three-month period. These cost-savings demonstrate that the DHCPP providers are treating patients in a more cost-effective manner than referring the same workload out to the network. The DHCPP appears to be an excellent method of providing health care to Womack's beneficiaries when it is not possible to do so with military or GS providers. The Executive Committee at Womack Army Medical Center can use these results as one of many decision-making tools available to them in determining whether to expand or reduce the current level of contracting for health care providers.

If the \$864,897 saving for this three-month period holds steady throughout the course of the year, the DHCPP could generate an overall saving of \$3,500,000 for the year. One important

consideration however is that the government sometimes does not pay the full TMAC rate when the patients see providers in the network. Occasionally, there are negotiated agreements where the government pays only a certain percentage of the TMAC, which varies from 80% - 100% (C. Burden, personal communication, March 14, 2000). This amount varies depending on the provider. However, even if all payments were discounted at 80%, the government could still experience \$2,800,000 in projected annual cost savings by treating these patients within the military MTF. The DHCPP provides a significant cost benefit, and appears to be a sound business decision.

Recommendation for Future Study

A continuation of this study would be to compare/contrast military, contract, and GS providers to determine which is more cost effective in providing the best health care in terms of clinical outcomes, to Womack's patients. The quality health care to which patients have grown accustomed and deserve to receive in the new millennium.

It would also be useful to examine the feasibility of transforming the DHCPP contracts into Resource Sharing Agreements. This would be beneficial to Womack because RSAs are the preferred method of contracting due the fact that the financial risk of caring for the patient population is shared between the government and the contractor. Under the DHCPP the financial risk belongs solely to the government. Additionally, the funding for the RSAs does not come directly out of Womack's budget, as does the funding for the DHCPP. Rather, funding for RSAs is allotted directly from the United States Army Medical Command.

As mentioned in the literature review, employee morale and satisfaction often suffer when contract personnel are introduced into the workplace. It would be interesting to conduct a cultural assessment of contractor, GS and military employees to determine if this phenomena

would hold true at Womack. In January 2001, the Defense Equal Opportunity Management Institute out of Patrick Air Force Base, Florida conducted a Military Equal Opportunity Climate Survey (MEOCS) at Womack. The survey results indicate that there is disparity in opinion of the degree of job commitment and perceived work group effectiveness among different types of workers at Womack. This survey produces generalized results that warrant closer examination. A survey that could be randomly administered to a large group of employees to ensure adequate power, could be developed to assess the significance of theorized propositions. The results of this survey could provide in-depth results that may assist Womack managers to positively affecting change in the work environment.

Legal issues relative to medical malpractice engender an additional area that could be studied at length. The legal issues as they relate to employee morale could be examined due to the differing malpractice protection afforded various employees. Also, as mentioned previously, the DHCPP currently has a contract with PhyAmerica, who provides Family Practice physician services. There is still a disparity in opinion as to whether these doctors are covered under the Federal Tort Claims Act (FTCA). This issue warrants further examination to ensure that the interests of the government as well as the interested of the providers within the facility are protected.

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Appendix A: WAMC Form 40-330b, 1 Sep 00, (Revised)) (MCXC-FP) ADS Superbill

ADS SUPERBILL		
Patient & SSN	Provider	Date
	Additional Provider	Follow Up Needed
		Update CHCS Problem List?
Section I – E&M	Immunizations	Section III – ICD-9
Office Visit – Established Patient	Administer Each Additional Vaccine (90472)	Write In Diagnoses
99211 “Nurse Visit”	Administer One Vaccine (90471)	
99212 Problem Focused	Anthrax Vaccine, SQ (90581)	
99213 Expanded Problem	Cholera (90725)	
99214 Detailed	DT, Child, IM (90702)	
99215 Comprehensive	DTaP, IM (90700)	
Office Visit - New Patient	DTaP-Hib, IM (90721)	
99201 Problem Focused	Hepatitis A, Adult IM (90632)	
99202 Expanded Problem	Hepatitis A, Ped / Adolescent, IM (90633)	Miscellaneous
99203 Detailed	Hepatitis B, Adult, IM (90746)	Allergic Reaction (995.3)
99204 Comprehensive	Hepatitis B, Ped / Adolescent, IM (90744)	Counseling on STD (v65.45)
99205 Comprehensive	Hepatitis B-Hib, IM (90748)	Counseling, Unspecified (v65.40)
Consultation – Office	Influenza, Whole Virus, IM or Jet (90659)	Elevated Blood Pressure (796.2)
99241 Problem Focused	Japanese encephalitis, SQ (90735)	Encounters For Other Admin Purpose (v68.89)
99242 Expanded Problem	Measles, SQ (90705)	Follow-Up Exam, After Surgery (v67.0)
99243 Detailed	Meningococcus (90733)	Follow-Up Exam, Unspecified (v67.9)
99244 Comprehensive	MMR, SQ or Jet (90707)	Gen Medical Exam, Non-pediatric (v70.0)
99245 Comprehensive	Mumps, SQ (90704)	Gen Medical Exam, Military or School (v70.5)
Preventive Medicine Visit – Est. Patient	Pneumococcal, SQ or IM (90732)	Hearing Exam (v72.1)
99391 Infant < 1 Year Old	Polio (IPV), SQ (90713)	Immunization (v06.9)
99392 Early Childhood, 1-4 yrs	TB Skin Test (86580)	Insertion Of IUD (v25.1)
99393 Late Childhood, 5-11 yrs	Td, IM or Jet (90718)	Issue Of Repeat Prescriptions (v68.1)
99394 Adolescent, 12-17 yrs	Typhoid (ViCPs), IM (90691)	Pre-Op Exam, Unspecified (v72.84)
99395 18-39 Years Old	Typhoid, Oral (90690)	Scrn For Malignant Neoplasm Of Cervix (v76.2)
99396 40-64 Years Old	Varicella, SQ (90716)	Screen For Unspec Malignant Neoplasm (v76.9)
99397 65 or Older	Yellow Fever, SQ (90717)	Sterilization (v25.2)
Telephone Consult	Misc. Procedures	Symptoms
99371 Simple or Brief	Airway Inhalation Treatment (94664)	Abdominal Pain, Unspecified (789.00)
99372 Intermediate	Airway Inhalation Treatment, Additional (94665)	Backache (724.5)
99373 Complex or Lengthy	Arterial Puncture (36600)	Blood in Stool (578.1)
	Audiologic Screening Test (92551)	Chest Pain (786.59)
	Blood Pressure Measurement (93770)	Cough (786.2)
Section II – Procedures (CPT)	Breast Cyst Aspiration (19000)	Cramp in Limb (729.82)
Dermatologic Procedures	Circumcision (54150)	Dizziness and Giddiness (780.4)
Biopsy of Skin Lesion (11100)	Colposcopy (57452)	Dysuria (788.1)
Destruction of Benign Skin Lesion (17000)	Colposcopy with Biopsy or ECC (57454)	Ear Pain (388.70)
Dest of Benign Skin Lesion, Each add'l (17003)	Drain/Inject Intermediate Joint or Bursa (20605)	Eye Pain (379.91)
Exc'n of Benign Skin Lesion, .6-1 cm (11401)	Drain/ Inject Major Joint or Bursa (20610)	Fever (780.6)
Excision of Benign Skin Lesion, < .5cm (11400)	ECG, 12 Lead with Interpretation (93000)	Headache (784.0)
Exc'n of Benign Skin Lesion, 1.1-2 cm (11402)	Endometrial Biopsy (58100)	Heat Cramps (992.2)
Incise and Drain Abscess (10060)	Exercise Stress Test (93015)	Hematuria (599.7)
Injection For Peripheral Nerve Block (64450)	Fetal Non-Stress Test (59025)	Insomnia (780.52)
Laceration Repair, < 2.5cm (12001)	Flexible Sigmoidoscopy with Biopsy (45331)	Joint Pain – Ankle (719.47)
Laceration Repair, 2.6-7.5 cm (12002)	Flexible Sigmoidoscopy, Diagnostic (45330)	Joint Pain – Forearm (719.43)
Nail Resection, Partial or Complete (11750)	IUD Insertion (58300)	Joint Pain – Lower Leg (719.46)
Removal Of Skin Tags, < 15 (11200)	IUD Removal (58301)	Joint Pain – Multiple Joints (719.49)
Shave of Skin Lesion (11300)	Lumbar Puncture (62270)	Joint Pain – Pelvis (719.45)
	Nasopharyngoscopy (92511)	Joint Pain – Shoulder (719.41)
Injections & Infusions	Obstetric Ultrasound, Limited (76815)	Joint Pain – Upper Arm (719.42)
IV Infusion Therapy, 1st Hour (90780)	Osteopathic Manip, 1-2 Body Rgns (98925)	Malaise and Fatigue (780.79)
IV Infusion Therapy; Each add'l Hour (90781)	Osteopathic Manip, 3-4 Body Rgns (98926)	Nausea with Vomiting (787.01)

Inj'n of Therapeutic/ Prophylactic Agent (90782)	Pulse Oximetry (94760)	Pain in Limb (729.5)
HepatitisB Immune Globulin (HBIG), IM (90371)	Remove Impacted Cerumen (69210)	Palpitations (785.1)
Varicella-zoster Imm Globulin (VZIG) (90393)	Urinary Catheter Insertion (53670)	Shortness of Breath (786.05)
Rho(D), IM (90384)	Vasectomy (55250)	Throat Pain (784.1)
Injection of Antibiotic (90788)	Venipuncture (36415)	Wheezing (786.07)
Section III - ICD-9 Continued		
Acute Illness	GI Continued	Neurologic
Bronchitis (466.0)	Diverticulosis of Colon (562.10)	Benign Paroxysmal Vertigo (386.11)
Conjunctivitis, Acute (372.00)	Gastroesophageal Reflux - GERD (530.81)	Carpal Tunnel Syndrome (354.0)
Croup (464.4)	Hemorrhoids, NOS (455.6)	Concussion, NOS (850.9)
Diarrhea (787.91)	Hernia, NOS (553.9)	Dementia, Senile (290.0)
Gastroenteritis / Enteritis – Infectious (009.1)	Irritable Bowel Syndrome (564.1)	Epilepsy NOS (345.90)
Herpes Simplex, NOS (054.9)	Ulcerative Colitis (556.9)	Head Injury, Unspecified (959.01)
Hypovolemia (276.5)	Medicine	Headache, Migraine Variant (346.20)
Infectious Mononucleosis (075)	Alcohol Abuse, Unspecified (305.00)	Headache, Migraine without Intractable (346.90)
Otitis Externa (380.10)	Anemia NOS (285.9)	Headache, Tension (307.81)
Otitis Media, Serous (381.01)/Suppurative (382.00)	Angina Pectoris NOS (413.9)	Multiple Sclerosis (340)
Pharyngitis (462)	Atherosclerosis NOS (440.9)	Myasthenia Gravis (358.0)
Pyelonephritis, NOS (590.10)	Atrial Fibrillation (427.31)	Neuralgia / Neuritis NOS (729.2)
Sinusitis, NOS (461.9)	Congestive Heart Failure (428.0)	Tremor NEC (333.1)
URI, NOS (465.9)	Coronary Atherosclerosis (414.01)	Trigeminal Neuralgia (350.1)
Urinary Tract Infection, NOS (599.0)	Edema (782.3)	Ob / Gyn
Varicella, NOS (052.9)	Gout NOS (274.9)	Abnormal PAP Smear (795.0)
Venereal Disease, NOS (099.9)	Heart Murmur, Functional (785.2)	Cervicitis (616.0)
Viral Infection, Unspecified (079.99)	Hyperlipidemia, Mixed (272.2)	Counsel on Procreative Management (v26.4)
Dermatologic	Hypertension, Essential (401.1) / Malignant (401.0)	Decreased Fetal Movements (655.70)
Acne (706.1)	Hypertension, Renovascular (405.11)	Dysmenorrhea (625.3)
Atopic Dermatitis, Other (691.8)	Hypopotassemia (276.8)	Dyspareunia (625.0)
Benign Neoplasm of Skin, NOS (216.9)	Impotence of Organic Origin (607.84)	Excessive Menstruation (626.2)
Burn, Unspecified (949.0)	Iron Deficiency Anemia, NOS (280.9)	Fibroadenosis of Breast (610.2)
Candidiasis, Site NOS (112.9)	Obesity, Unspecified (278.00)	Gestational Diabetes (648.03)
Cellulitis and Abscess (682.9)	Prostate Hyperplasia (600)	Gyn Exam w PAP (v72.3)
Dermatitis, NOS (692.9)	Prostatitis NOS (601.9)	Infertility, Female NOS (628.9)
Dermatormycosis, NOS (111.9)	Proteinuria (791.0)	Irregular Menstruation (626.4)
Dermatophytosis, Site NOS (110.9)	Raynaud's Syndrome (443.0)	Lump or Mass in Breast (611.72)
Hair Disease NOS (704.9)	Renal Failure, Acute NOS (584.9) / Chronic (585)	Mastitis, Postpartum (675.24)
Impetigo (684)	Sarcoidosis (135)	Ovarian Cyst, NOS (620.2)
Ingrowing Nail (703.0)	Syncope and Collapse (780.2)	Postmenopausal Bleeding (627.1)
Insect Bite (919.4)	Tachycardia NOS (785.0)	Postmenopausal Hormone Replacement (v07.4)
Lipoma (214.9)	Tobacco Use Disorder (305.1)	Pregnancy Complication, Unspecified (646.90)
Nevus, Non-Neoplastic (448.1)	Transient Cerebral Ischemia NOS (435.9)	Premenstrual Tension Syndrome (625.4)
Psoriasis (696.1)	Urinary Incontinence, Unspecified (788.30)	Routine Postpartum Follow-Up (v24.2)
Sebaceous Cyst (706.2)	Musculoskeletal	Screening for Breast Neoplasm (v76.10)
Seborrheic Dermatitis (690.10)	Arthropathy NOS (716.90)	Supervision of Normal First Pregnancy (v22.0)
Skin Disorder NOS (709.9)	Chondromalacia Patellae (717.7)	Supervision of Other Normal Pregnancy (v22.1)
Urticaria NOS (708.9)	Contusion NOS (924.9)	Supervision of Unspec High Risk Preg (v23.9)
Viral Exanthem, NOS (057.9)	Enthesopathy, Site NOS (726.90)	Threatened Abortion, Antepartum (640.03)
Wart, Viral and Chlamydia (078.10)	Fracture, Closed - NOS (829.0)	Vaginitis NOS (616.10)
Endocrine	Ganglion NOS (727.43)	Vomiting of Pregnancy, NOS (643.93)
Hyperthyroidism without Crisis (242.90)	Internal Derangement of Knee, NOS (717.9)	Vulvovaginitis, Candida (112.1)
Hypoglycemia, NOS (251.2)	Lumbago – Low Back Pain (724.2)	Pediatric
Hypothyroidism, NOS (244.9)	Muscle Spasm (728.85)	Attention Deficit with Hyperactivity (314.01)
IDDM w/Unsp Comp (250.91) / w/o Comp (250.01)	Myalgia and Myositis NOS (729.1)	Attention Deficit without Hyperactivity (314.00)
NIDDM w/Unsp Comp(250.90) / w/o Comp(250.00)	Neck Pain - Cervicalgia (723.1)	Development Delay NOS (315.9)
Thyroid Goiter, NOS (240.9)	Osteoarthritis, Mult Sites (715.99) / NOS (733.00)	Enuresis (307.6)
Thyroiditis, NOS (245.9)	Patellar Tendinitis (726.64)	Routine Infant or Child Healthcare (v20.2)
ENT	Plantar Fascial Fibromatosis (728.71)	Psychiatric
Allergic Rhinitis, NOS (477.9) / Chronic (472.0)	Rheumatoid Arthritis (714.0)	Anorexia Nervosa (307.1)
Chronic Sinusitis, NOS (473.9)	Rotator Cuff Syndrome (726.10)	Bulimia (307.51)
Eustachian Tube Dysfunction (381.81)	Sciatica (724.3)	Depressive Disorder NEC (311)
Hearing Loss due to Noise (388.12)	Scoliosis, Idiopathic (737.30)	Generalized Anxiety Disorder (300.02)

TMJ Pain (524.62)	Sprain of Ankle NOS (845.00)	Panic Disorder (300.01)
GI	Sprain of Foot NOS (845.10)	Respiratory
Acute Gastritis without Hemorrhage (535.00)	Sprain of Hand (842.10)	Asthma without Status Asthmaticus (493.90)
Anal Fissure (565.0)	Sprain of Knee or Leg NOS (844.9)	Chronic Airway Obstruction, NEC (496)
Cholelithiasis NOS (574.20)	Sprain of Lumbosacral Back (846.0)	COPD Exacerbation (491.21)
Chronic Pancreatitis (577.1)	Sprain of Neck (847.0)	Emphysema (492.8)
Constipation (564.0)	Sprain of Shoulder NOS (840.9)	Pneumonia, Organism Unspecified (486)
Crohns Enteritis (555.9)	Sprain of Wrist (842.00)	Sleep Apnea (780.57)
WAMC Form 40-330b, 1 Sep 00, (Revised) (MCXC-FP)		

Appendix B: Provider Interviews

Information Obtained from Interviews with Individual Doctors.

Doctors with a positive cost benefit analysis:

Dr. Quebec, Early Developmental Interventional Services. Dr. Quebec showed that her workload exceeded her salary earned. Her workload showed a profit of \$5,791 for this quarter. Dr. Quebec was a provider who held a very unique position and set of credentials. She specialized in developmental pediatrics and forensic medicine, and she managed a very complex mix of pediatric patients. Her patients tended to need specialized attention due to physical and emotional problems. Her patients had an average of three ICD9 Codes, and 50% of the patients she treated were new patients who required extensive interviews and workups. There was a lot of behind the scenes work that she did with others involved in the continuum of her patients' care such as schools, home health nursing agencies, other providers she consulted with, agencies that provided special equipment for her children with special needs, and other healthcare facilities such as UNC Chapel Hill and Duke. She was a participant in many child abuse cases, and sat on the Suspected Child Abuse Meetings (SCAM) which were held monthly at Womack. She also spent time teaching students at Womack. Three times in the past year she had lectured to Family Practice Residents and Physician Assistant students on various topics.

Dr. Golf, Family Practice Physician. Dr. Golf showed that his workload exceeded his salary earned. His workload produced a profit of \$43,643 for this quarter. Dr. Golf provided a unique service to Womack that distinguished him from other Family Practice Doctors. He was the sole provider who performed Medical Boards on soldiers to determine if there were any physical or mental issues that prevented the soldier from performing his or her job, and also determined if

soldiers had any service related disabilities. Dr. Golf is also responsible for the Persian Gulf Clinic that evaluated Persian Gulf veterans. He was prior military, and has worked on Fort Bragg for many years. In evaluating patients he spent about 1.5 hours per patient obtaining a detailed history and physical. When he put the patient visit information into CHCS he was only able to use an E&M code that reflected an uncomplicated office visit. This shortcoming of input parameters for CHCS prevented him from accurately reflecting the complexity of the work that he performed.

Dr. Papa, Dermatologist. Dr. Papa's workload exceeded his salary earned. His workload produced a profit for Womack of \$16,920. Dr. Papa was previously on active duty, and got out of the Army. He was one of three staff dermatologists, who were dealing with a large work backlog because two of the three positions were vacant for an extended period of time. He treated all beneficiaries, and worked on a referral basis. He treated a patient load that was consistent with what other providers in his area of expertise in Womack saw.

Dr. Oscar, Internal Medicine Physician. Dr. Oscar's workload exceeded his salary earned. His workload produced a profit for Womack of \$69,930. He was hired under the PhyAmerica contract that the DHCPP office holds. This contract hired providers who previously cared for eligible beneficiaries in the Eutaw Clinic, which was closed due to changes in contractual policy. When the Eutaw Clinic closed the PhyAmerica providers were given space within Clark Health Clinic to treat their patient population. All patients that the PhyAmerica providers treat are TRICARE Prime patients. Many of his patients were retirees, so they had a complex set of health care needs.

Dr. Echo, Family Practice Physician. Dr. Echo's workload exceeded his salary earned. His workload produced a profit of \$94,615. Dr. Echo was also a PhyAmerica physician. With the exception of Obstetric patients, he treated all other family practice patients.

Dr. Juliet, Pediatrician. Dr. Juliet's workload exceeded his salary earned. His workload produced a profit of \$43,708. Dr. Juliet is also a PhyAmerica physician. He treated patients that ranged in age from birth to 18 years. He did not provide a lot of chronic care, but identified acute issues, fixed them, and then didn't see the patient again until there was another acute problem. He operated under the principal that preventive medicine is the core of pediatrics, and incorporated as much teaching into each visit as possible. Dr. Juliet sent quite a few referrals for behavioral problems when he felt they were indicated.

Dr. Delta, Family Practice Physician. Dr. Delta's workload exceeded his salary earned. His workload showed a profit of \$96,962. Dr. Delta was also a PhyAmerica physician, who previously worked in the Eutaw Clinic. Dr. Delta spent a lot of time with patients trying to meet their expectations. He viewed himself as a facilitator for patients. He educated younger patients, and saw predominantly family members and retirees. He put in a lot of extra hours catching up on administrative requirements, over and beyond what he was paid.

Dr. Kilo, Pediatrician. Dr. Kilo's workload exceeded her salary earned. Her workload produced a profit of \$26,572. Dr. Kilo worked in an outpatient position where she saw a lot of children with acute care issues and chronic illnesses. She spent one morning per week in the

Child Abuse Case Review Committee (CRC), and then spent that afternoon doing child abuse evaluations. Dr. Kilo was prior military as the Chief of the Department of Pediatrics at Womack, so she had strong ties to the facility and community.

Dr. November, Optometrist. Dr. November's workload exceeded his salary earned. His workload produced a profit of \$242,568. Dr. November worked in the Refractive Eye Surgery Clinic and provided pre- and postoperative care for patients who were undergoing Lasik or PRK eye surgery. Dr. November's salary was paid for by the United States Special Operations Command (US SOCOM) because the Refractive Eye Surgery Clinic was originally opened to support the Special Forces soldiers stationed on Fort Bragg. Dr. November was able to see a large number of patients per day because each visit is standardized, and there were rarely timely complications. There were also ample support staff in the clinic to assist in making his patient care a smooth process. He treated each patient an average of 6 times over a six-month period.

Dr. Charlie, Emergency Medicine Physician. Dr. Charlie's workload exceeded his salary earned. His workload produced a profit of \$24,174. Dr. Charlie worked in Womack's Emergency Department and provided a myriad of services in this arena. He had been working at Womack since August 1999, and was the only contract physician in this study who was a board certified Emergency Medicine Physician, who also received training in Internal Medicine. He was a staff physician who provided direct patient care to patients who presented with acute, life or limb-threatening surgical, medical, obstetrical, gynecological, pediatric, orthopedic, psychiatric, toxicological, ophthalmological, or otorhinolaryngological emergencies. Dr. Charlie coordinated pre hospital and emergency care and arranged for appropriate consultation and

disposition of patients with acute medical needs. He also supervised and taught nurses, residents, students, and combat medics emergency medicine. Core privileges for staff with residency training in emergency medicine will include the following:

- Initial assessment of patients of any age to determine the presence or absence of an emergency medical condition and the initial treatment of any emergency medical condition detected.
- Management of any emergency medical condition for which most providers trained in emergency medicine would be considered competent.
- Consultation and/or patient transfer when the needs of the patient exceed physicians or the institution's capabilities.

Dr. Bravo, Emergency Medicine Physician. Dr. Bravo's workload exceeded his salary earned.

His workload produced a profit of \$45,740. Dr. Bravo worked in Womack's Emergency Department and provided a myriad of services in this arena. He was a staff physician who provided direct patient care to patients presenting with acute, life or limb-threatening surgical, medical, obstetrical, gynecological, pediatric, orthopedic, psychiatric, toxicological, ophthalmological, or otorhinolaryngological emergencies. Dr. Bravo coordinated pre hospital and emergency care and arranged for appropriate consultation and disposition of patients with acute medical needs. He also supervised and taught nurses, residents, students, and combat medics emergency medicine. Core privileges for staff with residency training in emergency medicine will include the following:

- Initial assessment of patients of any age to determine the presence or absence of an emergency medical condition and the initial treatment of any emergency medical condition detected.

-Management of any emergency medical condition for which most providers trained in emergency medicine would be considered competent.

-Consultation and/or patient transfer when the needs of the patient exceed physicians or the institution's capabilities.

Dr. Bravo is a full time employee who had been working at Womack since the early 1990s, and worked all of his hours in a three day/week time frame. Therefore, the number of patients he treated per day appeared to be higher than other physicians. This is why the Emergency Room patients/day calculations are done on an hourly basis. Dr. Bravo was a board certified Internal Medicine Physician who was trained in emergency medicine.

Dr. Alpha, Emergency Medicine Physician. Dr. Alpha's workload exceeded his salary earned. His workload produced a profit of \$51,111. Dr. Alpha worked in Womack's Emergency Department and provided a myriad of services in this arena. Dr. Alpha was a board certified Internal Medicine Physician who was trained in emergency medicine. Dr. Alpha had been working at Womack since October 1998. He was a staff physician who provided direct patient care to patients presenting with acute, life or limb-threatening surgical, medical, obstetrical, gynecological, pediatric, orthopedic, psychiatric, toxicological, ophthalmological, or otorhinolaryngological emergencies. Dr. Alpha coordinated pre hospital and emergency care and arranged for appropriate consultation and disposition of patients with acute medical needs. He also supervised and taught nurses, residents, students, and combat medics emergency medicine. Core Privileges for staff with residency training in emergency medicine will include the following:

- Initial assessment of patients of any age to determine the presence or absence of an emergency medical condition and the initial treatment of any emergency medical condition detected.
- Management of any emergency medical condition for which most providers trained in emergency medicine would be considered competent.
- Consultation and/or patient transfer when the needs of the patient exceed physicians or the institution's capabilities

Dr. Foxtrot, Family Practice Physician. Dr. Foxtrot's workload exceeded her salary earned. Her workload produced a profit of \$56,409. Dr. Foxtrot worked at Joel Health Clinic.

Dr. Hotel, Family Practice Physician. Dr. Hotel's workload exceeded his salary earned. His workload produced a profit of \$32,850. Dr. Hotel is also PhyAmerica physician.

Dr. India, Family Practice Physician. Dr. India's workload exceeded his salary earned. His workload produced a profit of \$33,295. Dr. India is also a PhyAmerica physician.

Dr. Romeo, Pediatric Cardiologist. Dr. Romeo's workload exceeded her salary. Her workload produced a profit of \$4,447 for this quarter. Dr. Romeo was a part-time employee who came to the Pediatric Clinic once a month/12 days per year. She was normally scheduled to see pediatric referral and follow-up patients. Referrals came from all Primary Care sites and WAMC specialties providing services for the pediatric population (Exceptional Family Member Program, Educational Development Interventional Services, Expanded Care Nursery, etc.) Dr. Romeo had been providing on site contracted Pediatric Cardiology services at Womack since 1979.

Doctors with a negative cost benefit analysis:

Dr. Mike, Plastic Surgeon. Dr. Mike's workload did not exceed his salary earned. His workload produced a loss of \$9,488 for this quarter. Dr. Mike was a part-time employee, and only worked on Fort Bragg 4 days a month. He divided his time between Womack and SOCOM. Half of Dr. Mike's salary was paid for by SOCOM. SOCOM was willing to do this because of the nature of the work that Dr. Mike performed on SOCOM beneficiaries and because he had the proper security clearances. SOCOM had a fully operational medical facility on Fort Bragg, where Dr. Mike spent one day per month. SOCOM leadership felt comfortable with Dr. Mike because Dr. Mike was previously active duty and assigned to a Special Forces unit on Fort Bragg. The other three days were spent at Womack and divided as follows: 1.5 days in the OR, 1.5 days in clinic seeing patients, and 1 day removing tattoos. In accordance with Womack's Department of Surgery Standard Operating Procedure (SOP) there was no elective cosmetic surgery done at Womack. All of the plastic surgery that Dr. Mike performed was medically indicated. Authorized procedures include post-cancer reconstruction, breast reductions, and correction of congenital abnormalities. With the exception of breast reconstruction, all patients were active-duty. One the day that Dr. Mike performed tattoo removal, he typically saw 25 patients per day, and removed an average of two tattoos per patient. Tattoos were not removed in one visit, but were removed through a series of several visits over several months depending on the size and depth of each tattoo. Dr. Mike was a provider who performed a mission essential task that sometimes operates at a loss. As discussed previously, there are many intangible benefits that Dr. Mike brought to Womack Army Medical Center that made him a valuable asset to the organization.

Dr. Sierra, Occupational Medicine Physician. Dr. Sierra did not show that her workload exceeded the salary that she is receiving. Her workload produced a loss of \$10,043 for this quarter. Dr. Sierra's salary was paid for by Fort Bragg, so therefore it did not come out of Womack's budget. The fact that her workload did not appear to break even with her salary was due to the nature of the work that she performed. She was an Occupational Medicine Physician, and most of the work that she performed is not captured in CHCS. She specialized in the health of the worker. This focused mostly on the diagnosis and treatment of workplace injuries and illnesses. She was also an expert in toxicology issues (exposure to chemicals, metals and other substances, and their affect on human health). Dr. Sierra spent a lot of time in the actual workplace of employees on Fort Bragg. For instance, recently she visited a building where several workers were complaining of dizziness and shortness of breath and felt it was related to their work environment. Many different types of workplace assessments were done from walking through entire buildings, ergonomic assessments, air flow, ventilation, and looking at how workers do their jobs from start to finish. A workplace assessment takes approximately 2-3 hours to do, and none of this is captured in CHCS. Additionally, Dr. Sierra was one of two board certified Occupational Medicine physicians in the Southeastern Carolinas. Her special skills were a valuable asset to Womack Army Medical Center and Fort Bragg as a whole.

Dr. Lima, Surgeon. Dr. Lima's workload did not exceed his salary during this time frame. His workload produced a loss of \$4,307 for this quarter. Dr. Lima was a surgeon who Womack had a contract with on an as-needed basis to perform highly technical shoulder repair surgeries. Dr. Lima was one of three nationally renowned surgeons for his expertise in total shoulder and hip

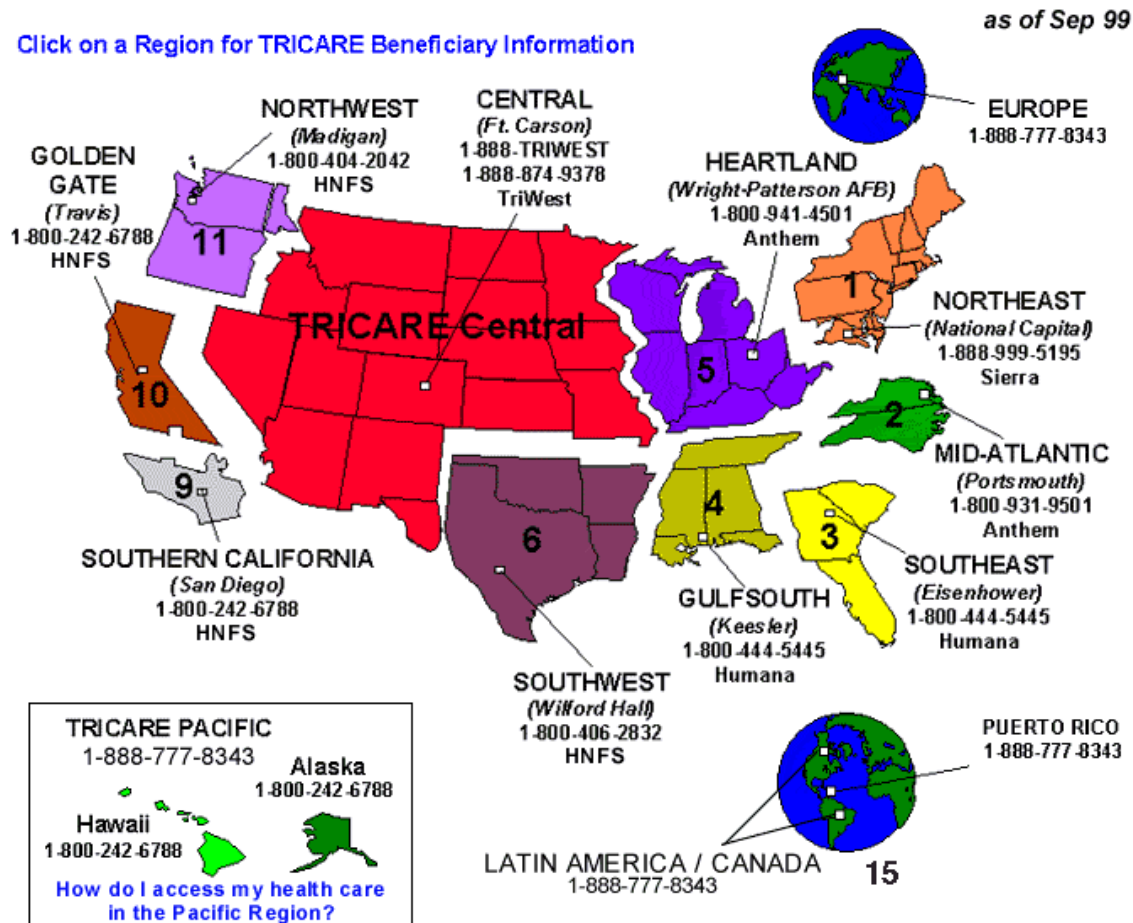
replacement procedures. This was a service that Womack had a need for occasionally. Dr. Lima was a part-time employee who worked only 41.5 hours during this time frame, and a great deal of it was spent in the Operating Room. This is due to the fact that the Orthopedic Staff Physicians did the majority of the preliminary evaluations of the patients. Dr. Lima only required a quick evaluation to confirm the opinion of the staff providers, and then performed the necessary surgical procedure. This was Dr. Lima's 2nd year performing this service for Womack.

Appendix C1

Doctor's Name	Specialty	Total Annual Salary Projected	Actual Total Salary Paid Sep-Nov*	Total TMAC Workload \$ for E&M, CPT, Lab, & Rad	Womack's Profit/Loss
Dr. Papa	Derm	260,000	\$27,375	\$44,295	\$16,920
Dr. Charlie	ED	314,321	\$68,384	\$92,558	\$24,174
Dr. Bravo	ED	267,540	\$57,604	\$103,344	\$45,740
Dr. Alpha	ED	264,264	\$57,250	\$108,361	\$51,111
Dr. Quebec	EDIS	136,375	\$26,997	\$32,788	\$5,791
Dr. Foxtrot	FP	271,398	\$58,533	\$114,942	\$56,409
Dr. Delta	FP	161,276	\$40,604	\$137,566	\$96,962
Dr. Echo	FP	161,276	\$40,604	\$135,219	\$94,615
Dr. Golf	FP	123,572	\$24,975	\$68,618	\$43,643
Dr. Hotel	FP	161,276	\$40,604	\$73,454	\$32,850
Dr. India	FP	161,276	\$40,604	\$73,899	\$33,295
Dr. Oscar	Int Med	168,167	\$42,730	\$112,660	\$69,930
Dr. Sierra	Occ Hlth	100,000	\$19,373	\$9,330	(\$10,043)
Dr. November	Opt	121,846	\$29,428	\$271,996	\$242,568
Dr. Juliet	Peds	204,976	\$34,162	\$77,870	\$43,708
Dr. Kilo	Peds	232,606	\$48,835	\$75,407	\$26,572
Dr. Romeo	Peds	750	\$750	\$5,197	\$4,447
	(Cardio)				
Dr. Lima	Surgery	60,480	\$9,010	\$4,703	(\$4,307)
Dr. Mike	Surgery	140,083	\$34,671	\$25,183	(\$9,488)
Total Dollars for Program		3,311,482	\$702,493	\$1,567,390	\$864,897
*From Actual Time Cards					
All Data Extracted From CHCS/ADS Except Where Otherwise Indicated					

Appendix D: Map of the TRICARE Regions

[Click on a Region for TRICARE Beneficiary Information](#)



<http://www.tricare.osd.mil/tricare/trimap2.html>

Appendix E. List of Abbreviations and Acronyms

AAHIC-Anthem Alliance Health Insurance Corporation
AMGA-American Medical Group Association
ASAM-Army Staffing Assessment Model
ADS-Ambulatory Data System
BPA-Bid Price Adjustment
CHCS-Composite Health Care System
CPT-Current Procedural Code
DHCPP-Direct Health Care Provider Program
DOD-Department of Defense
DOJ-Department of Justice
ER-Emergency Room
E&M-Evaluation & Management
FY-Fiscal Year
FTE-Full Time Equivalent
FTCA-Federal Tort Claims Act
GS-General Schedule
HHN-Hospitals and Health Network
HCFA-Health Care Financing Administration
HEDIS-Health Employer Data Information Set
MTF-Medical Treatment Facility
MGMA-Medical Group Management Association
MCSC-Managed Care Support Contractor
NARMC-North Atlantic Regional Medical Command
OTA-Office of Technology and Assessment
ODP-Officer Distribution Plan
PSC-Personal Services Contract
RSA- Resource Sharing Agreement
RVU-Relative Value Unit
TMAC-TRICARE Maximum Allowable Charge
TMA-TRICARE Management Activity
TDA-Table of Distribution and Allowances